Multi-Drug Toxicology Report Summary

Indiana State Department of Health, Division of Trauma & Injury Prevention

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Prepared for the
Division of Trauma & Injury Prevention
at the Indiana Department of Health

Division of
Trauma &
Injury Prevention

ABSTRACT

The following report summary provides a breakdown of the Enhanced State Toxicology Surveillance System that was conducted by the Division of Trauma and Injury at the Indiana State Department of Health. Forty-six counties contributed to the database since January 2018.

Data collected are from all suspected accidental fatal overdoses as indicated by the following International Classification of Diseases (ICD) codes: X40-X44. This report will provide the toxicology findings from these cases and visually present the trends in the substances detected across the state by participating counties.

The information within this report is not fully representative of all the fatal overdoses within the counties. This snapshot of the opioid crisis in Indiana will be more accurate as the surveillance system obtains additional toxicology reports and participation from each county.

KEY FINDINGS

- Opioids were involved in over 85% (n=1312) of accidental overdoses deaths
- Fentanyl was present in over 64% (n=987 cases) of all deaths and the most common illicit opioid found.
- Only 7% (n=103 cases) of all deaths were undercounted as opioid-involved overdoses.

DATA INFORMATION

The data we received have all toxicology test results from NMS Labs from January 1, 2018 to March 10, 2020 and are record linked (via Management Performance Hub (MPH)) to the ICD codes contained in vital records data. There are a total of 3,358 persons with NMS results, located across 59 counties. Of this these totals, accidental drug overdose deaths (ICD code X40-X44) were identified in 46.0% (n=1,544) of the total persons across 54 counties. Among those 1,544 cases, 58.7% (n=907) were determined to contain the unspecified ICD code (T50.9); however, many of these also had other contributing ICD codes specific to substances associated with the death and would not be truly unspecified deaths based on the Center for Disease Control (CDC) criteria we discussed with Margie Warner. Out of all these accidental overdose deaths (n=1,544), we found that only 12.4% of cases (n=192) were unspecified—they had the unspecified ICD code and no other contributing substance code.

It is important to note that the linked NMS-vital records data (n=961) do not necessarily represent all the accidental overdose deaths during the reported time frame. For example, there may be a time lag in receiving the NMS data, the county may be using a different toxicology provider, the coroner might not have run a toxicology test, or the coroner may have submitted a preliminary underlying cause of death (such as ICD code R99 which is an ill-defined and unknown cause of mortality) on the death certificate before final certification. For preliminary cases, we will be able to update future reports as they released quarterly to include the any accidental overdose deaths that were certified between report releases. Any deaths that do not involve NMS Labs will not be included in this report.

Figure 1. **Total Number of Drug-Related Deaths by County**
Date of Death: **January 2018 – March 2020**

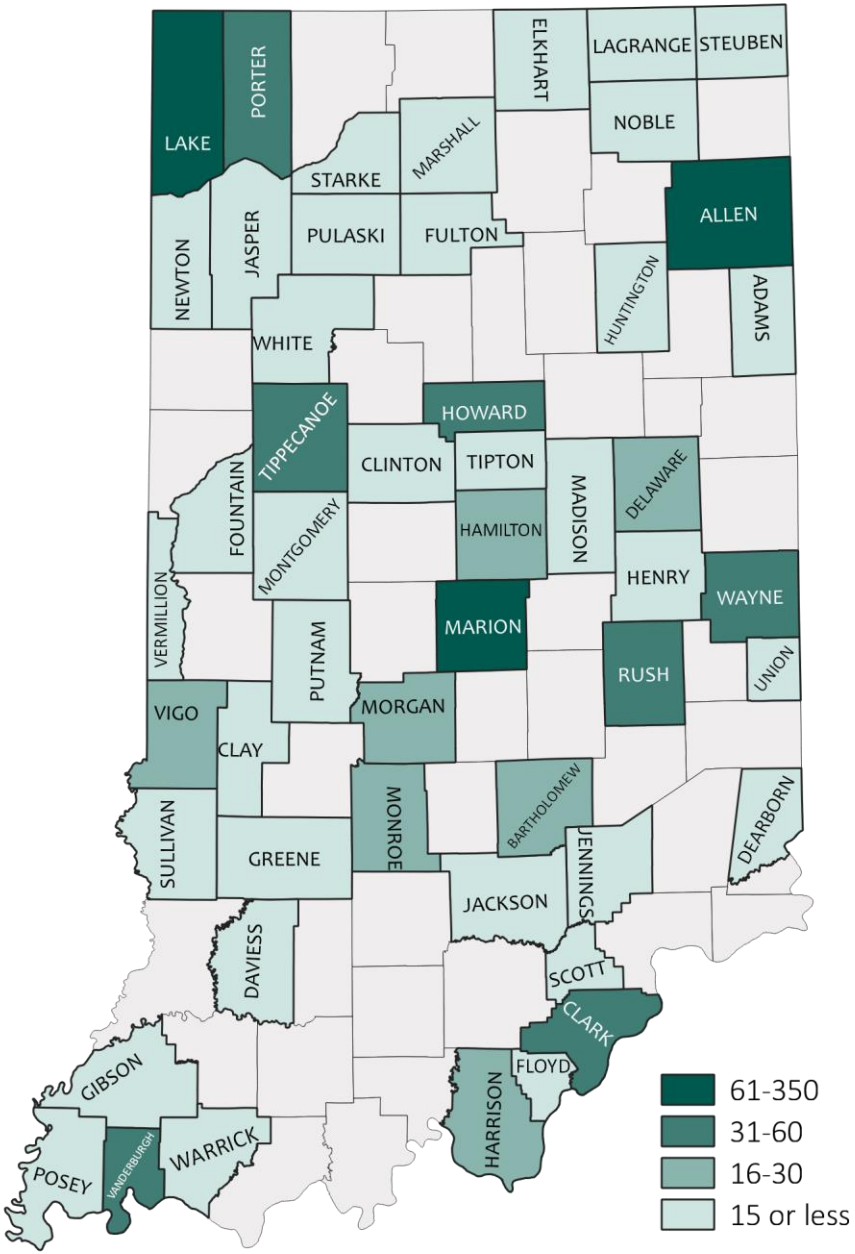


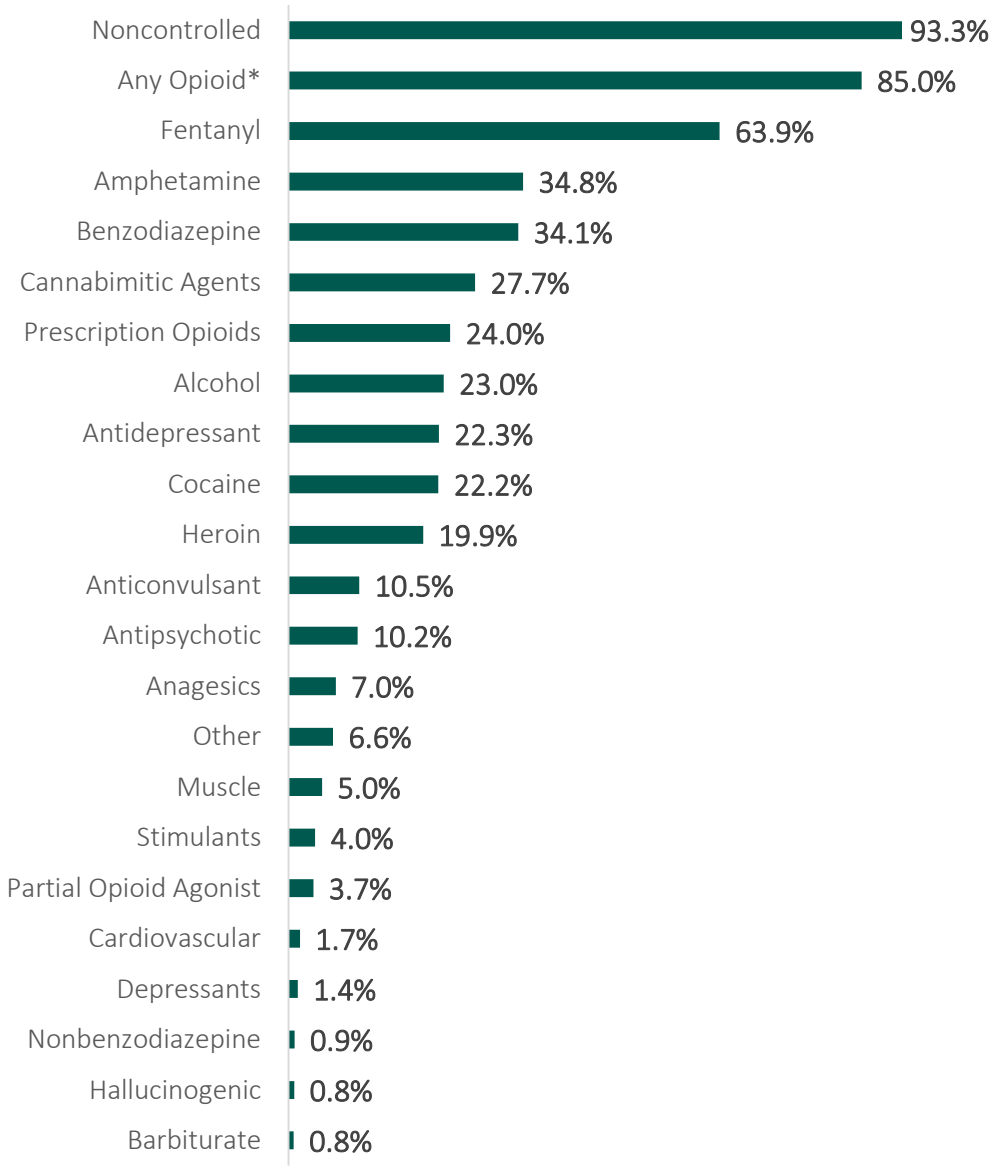
Table 1. **Total Toxicology Reports in Database**
Date of Death: January 2018 – March 2020

County	Count
Adams	5
Allen	145
Bartholomew	22
Clark	2
Clay	56
Clinton	2
Daviess	9
Dearborn	2
Delaware	11
Elkhart	25
Floyd	13
Fountain	9
Fulton	4
Gibson	5
Greene	2
Hamilton	2
Harrison	29
Henry	10
Howard	5
Huntington	41
Jackson	7
Jasper	8
Jennings	2

County	Count
LaGrange	14
Lake	3
LaPorte	208
Madison	10
Marion	538
Marshall	5
Monroe	26
Montgomery	12
Morgan	18
Newton	1
Noble	1
Porter	1
Putnam	1
St Joseph	48
Scott	1
Starke	2
Tippecanoe	2
Tipton	44
Union	9
Vanderburgh	8
Vigo	1
Wayne	1
White	34

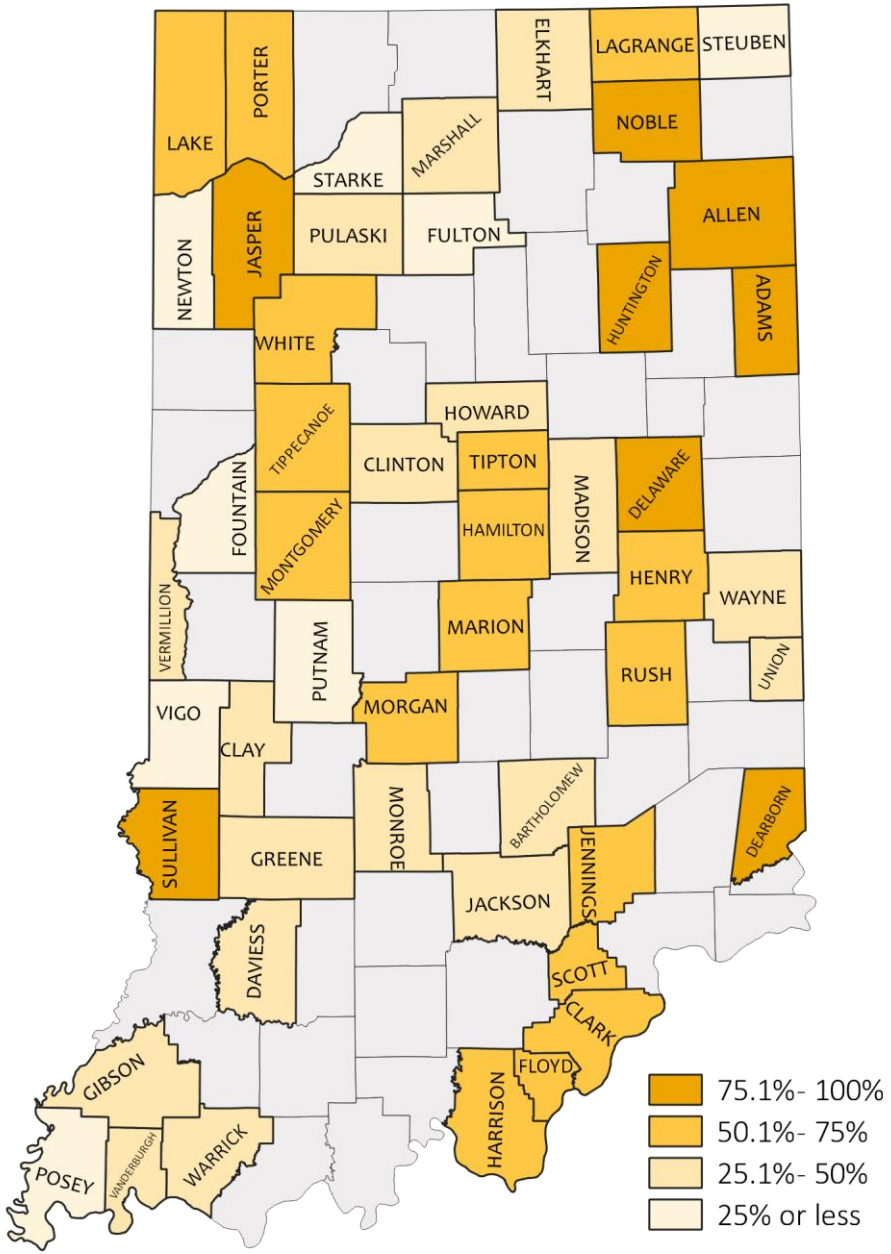
NOTE: *Maps represent the 54 counties that contributed to the database from January 2018 to March 2020*

Figure 2. **Frequency of Positive Results in Post-Mortem Toxicology Tests**



**Includes heroin, fentanyl, prescription opioids, and any other opioids*

Figure 3. **Percent of Drug-Related Deaths with Fentanyl Present.**
Date of Death: **January 2018 – March 2020**



NOTE: *Maps represent the 54 counties that contributed to the database from January 2018 to March 2020*

Figure 4. **Percent of Drug-Related Deaths with Heroin Present.**
Date of Death: **January 2018 – March 2020**

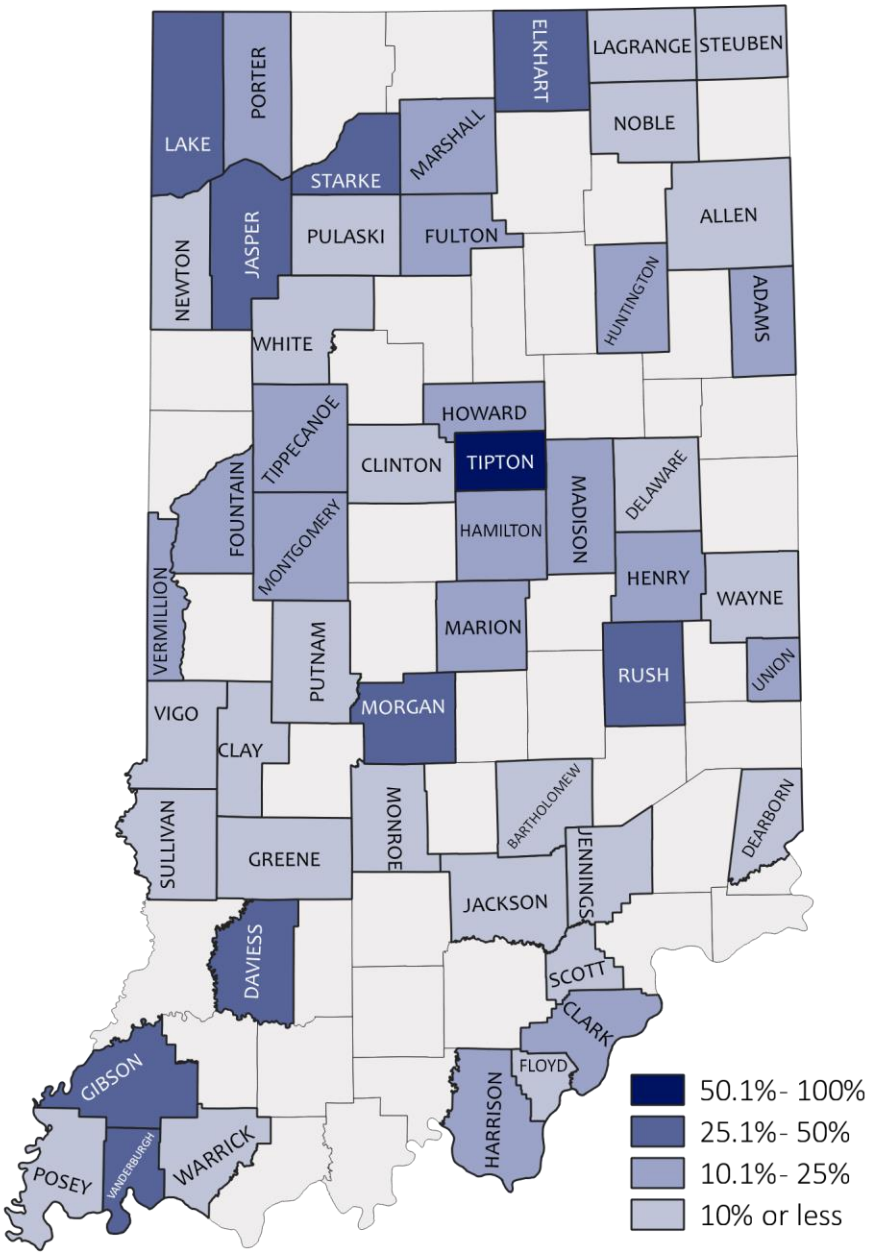
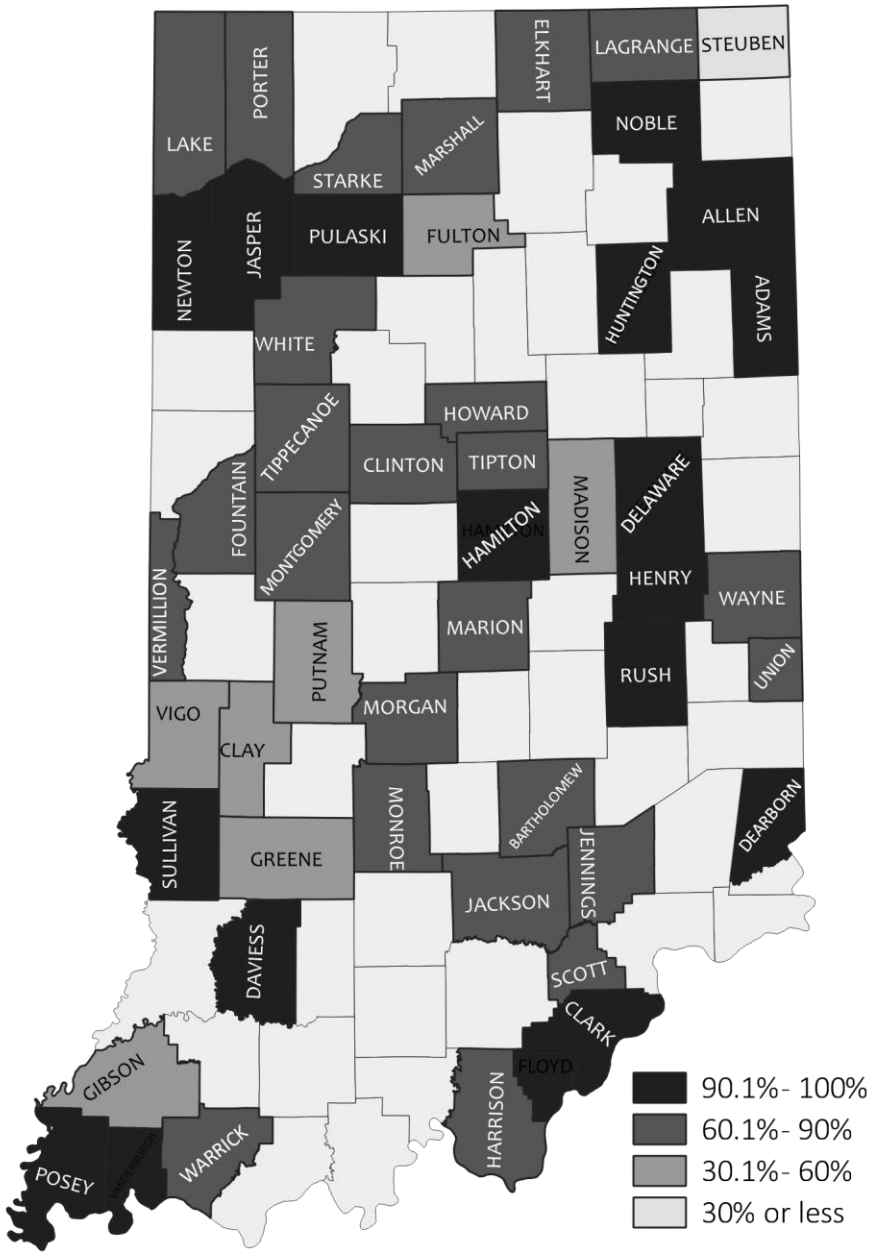


Figure 5. **Percent of Drug-Related Deaths with Opioids Present.**
Date of Death: **January 2018 – March 2020**



NOTE: *Maps represent the 54 counties that contributed to the database from January 2018 to March 2020*

Figure 6. **Percent of Drug-Related Deaths with Methamphetamine Present.**
Date of Death: **January 2018 – March 2020**

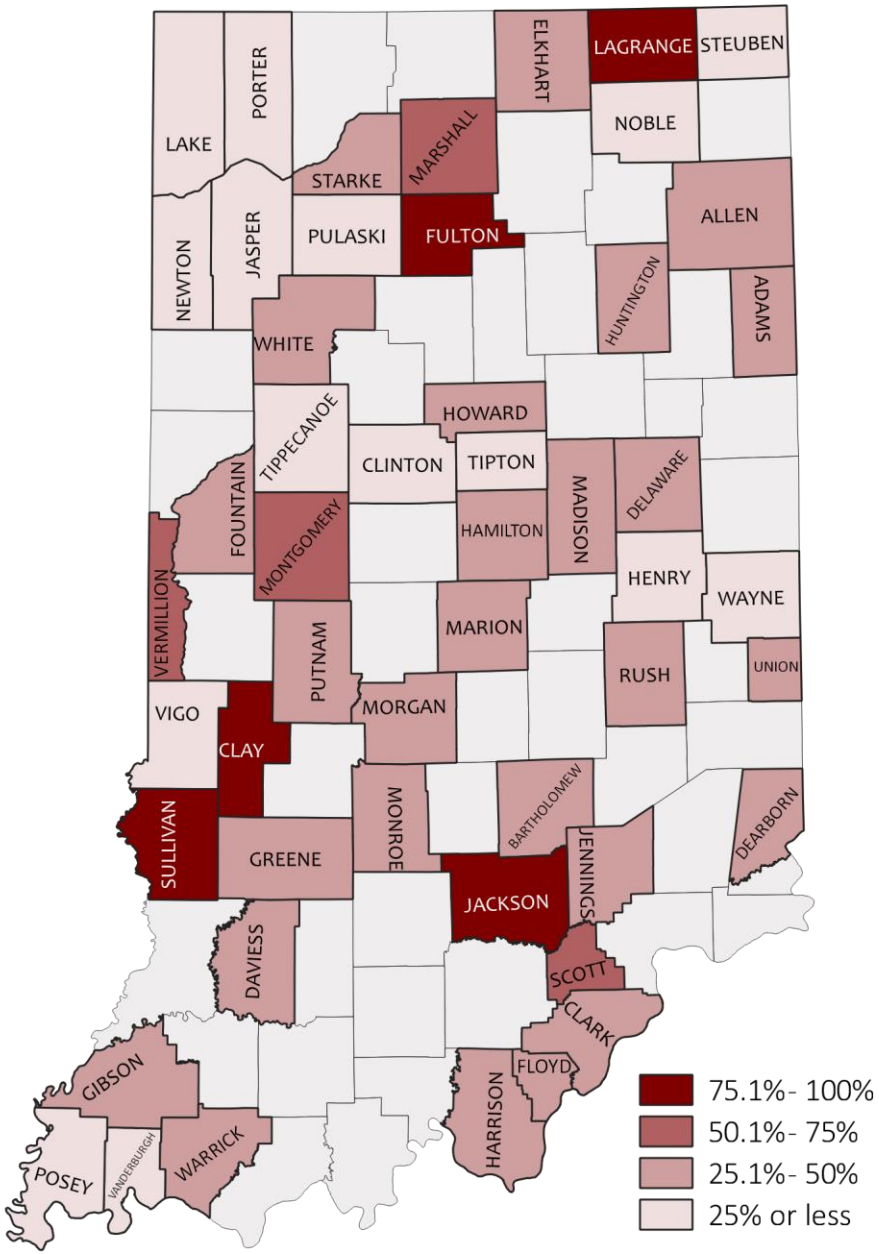
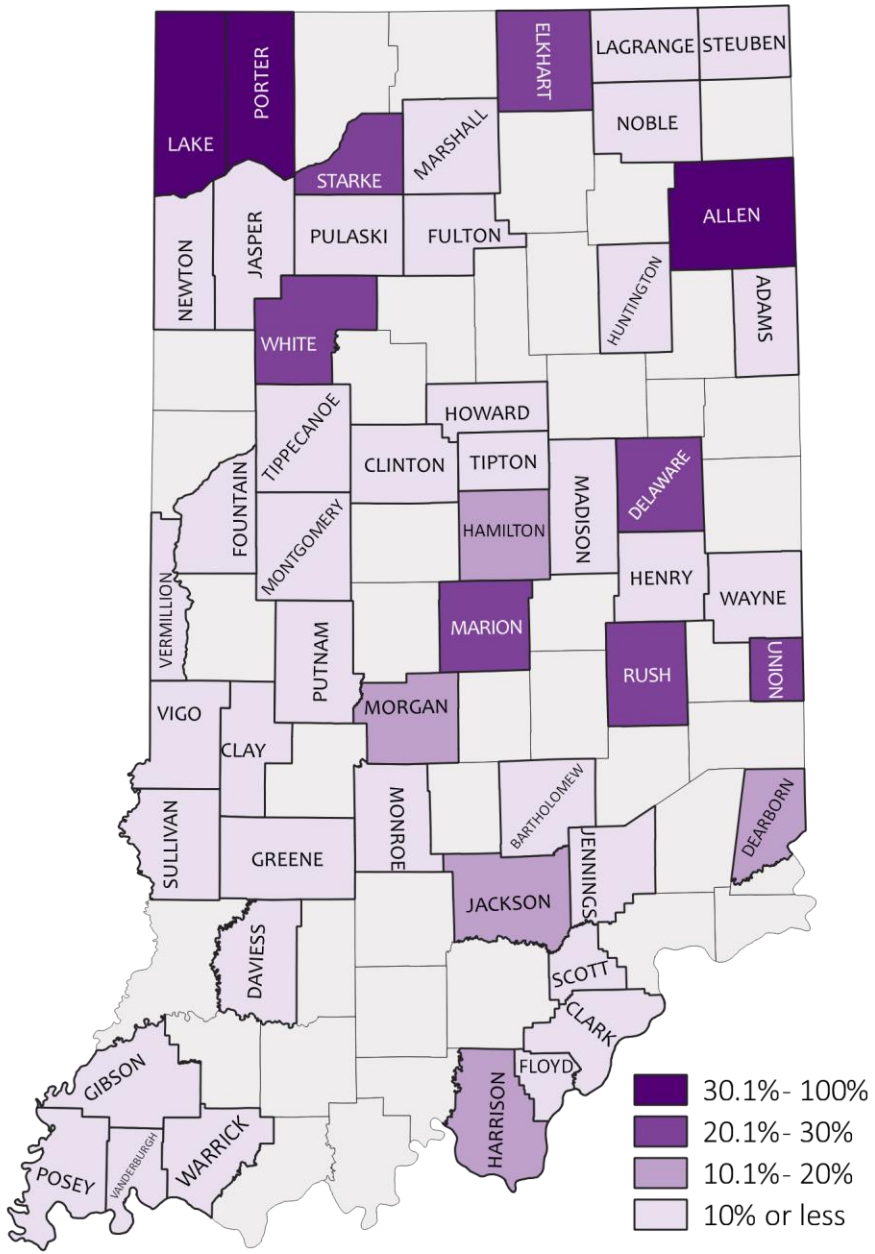


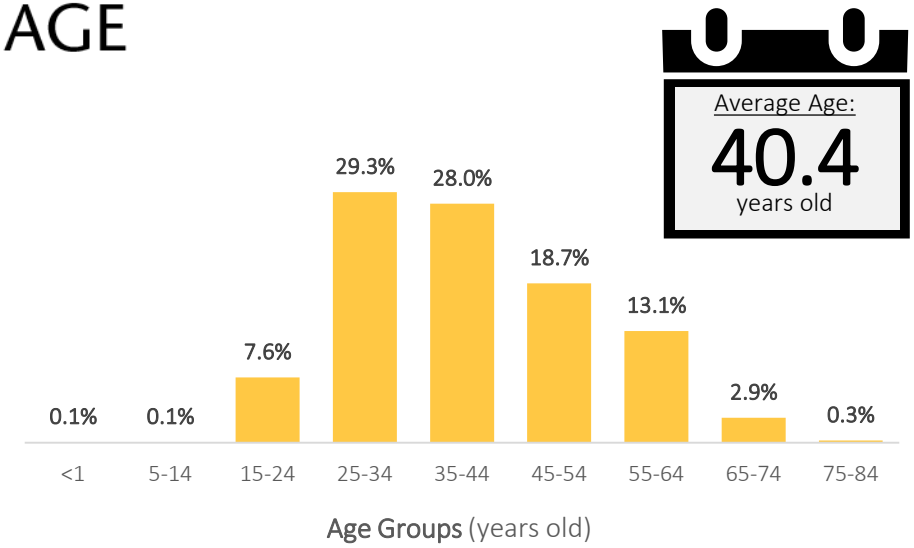
Figure 7. **Percent of Drug-Related Deaths with Cocaine Present.**
Date of Death: **January 2018 – March 2020**



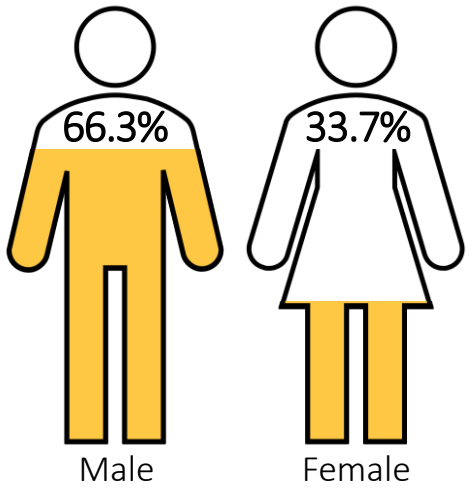
NOTE: *Maps represent the 54 counties that contributed to the database from January 2018 to March 2020*

Figure 6. **Demographics of Suspected Accidental Overdose Deaths.**
Date of Death: **January 2018 – March 2020**

AGE



GENDER



RACE

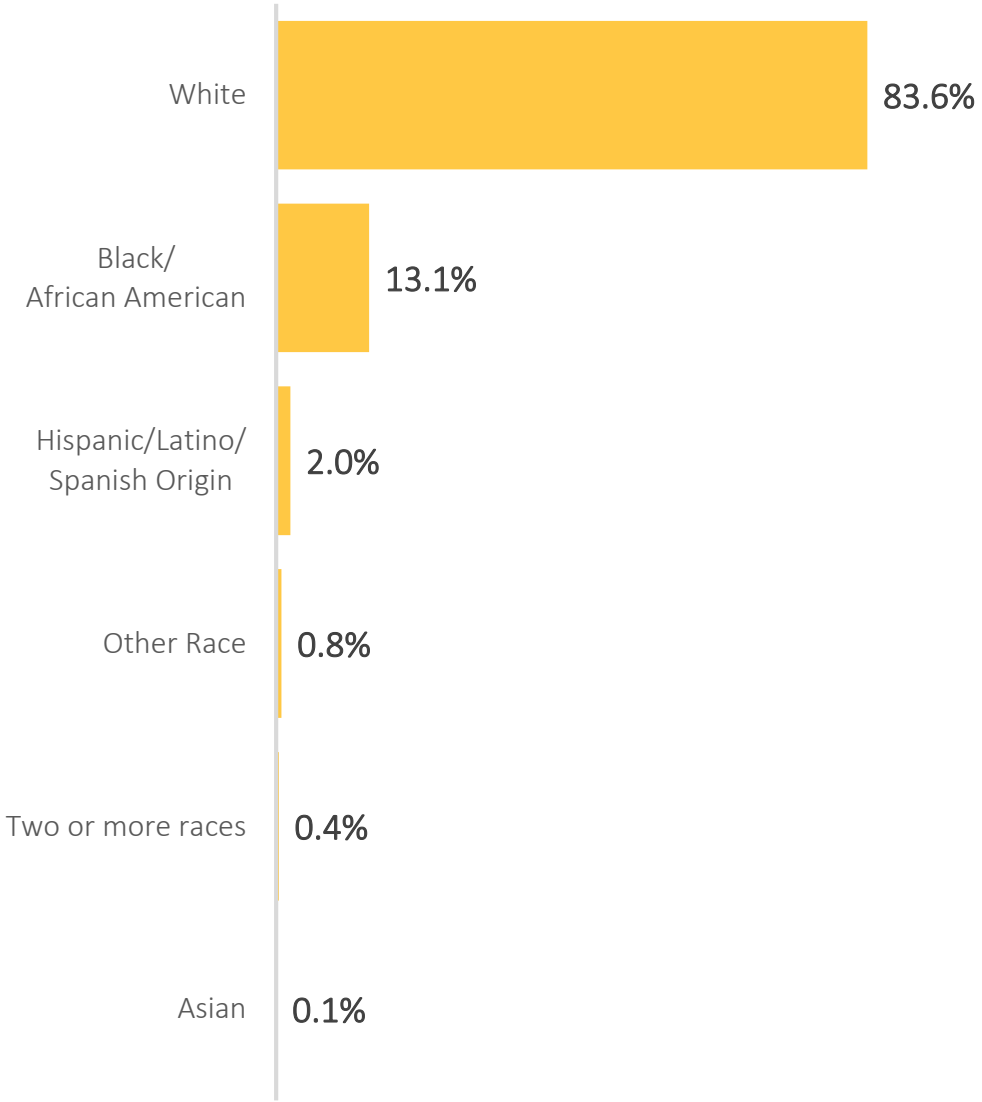


Figure 8. **Undercounting of Opioid-Involved Accidental Drug Overdose Deaths**

Missing Opioid-Involved Cases							
County	Total Number of Reports	Cases with an Opioid ICD Code		Cases with an Opioid in Toxicology		Numer of Missed Opioid-Invovled Cases	
Adam	5	4	80%	5	100%	1	20%
Allen	145	115	79%	131	90%	16	11%
Bartholomew	22	12	55%	16	73%	4	18%
Boone	2	1	50%	1	50%	0	0%
Clark	56	51	91%	52	93%	1	2%
Clay	2	1	50%	1	50%	0	0%
Clinton	9	6	67%	7	78%	1	11%
Daviess	2	2	100%	2	100%	0	0%
Dearborn	11	10	91%	11	100%	1	9%
Delaware	25	9	36%	23	92%	14	56%
Elkhart	13	8	62%	11	85%	3	23%
Floyd	9	9	100%	9	100%	0	0%
Fountain	4	2	50%	3	75%	1	25%
Fulton	5	3	60%	3	60%	0	0%
Gibson	2	1	50%	1	50%	0	0%
Greene	2	1	50%	1	50%	0	0%
Hamilton	29	25	86%	27	93%	2	7%
Harrison	10	8	80%	9	90%	1	10%
Henry	5	1	20%	5	100%	4	80%
Howard	41	28	68%	26	63%	0	0%
Huntington	7	7	100%	7	100%	0	0%
Jackson	8	6	75%	5	63%	0	0%
Jasper	2	1	50%	2	100%	1	50%
Jennings	14	7	50%	9	64%	2	14%
Lagrange	3	2	67%	2	67%	0	0%
Lake	208	164	79%	173	83%	9	4%
Madison	10	4	40%	5	50%	1	10%
Marion	538	470	87%	475	88%	5	1%
Marshall	5	5	100%	4	80%	0	0%
Monroe	26	15	58%	21	81%	6	23%
Montgomery	12	9	75%	9	75%	0	0%
Morgan	18	14	78%	14	78%	0	0%
Newton	1	1	100%	1	100%	0	0%
Noble	1	1	100%	1	100%	0	0%
Parke	1	0	0%	1	100%	1	100%
Perry	1	0	0%	1	100%	1	100%
Porter	48	36	75%	39	81%	3	6%
Posey	1	1	100%	1	100%	0	0%
Pulaski	2	1	50%	2	100%	1	50%
Putnam	2	0	0%	1	50%	1	50%
Rush	44	36	82%	40	91%	4	9%
Scott	9	7	78%	7	78%	0	0%
Starke	8	7	88%	7	88%	0	0%
Steuben	1	0	0%	0	0%	0	0%
Sullivan	1	0	0%	1	100%	1	100%
Tippecanoe	34	27	79%	28	82%	1	3%
Tipton	3	3	100%	2	67%	0	0%
Union	2	1	50%	2	100%	1	50%
Vanderburgh	51	33	65%	37	73%	4	8%
Vermillion	4	2	50%	2	50%	0	0%
Vigo	19	12	63%	16	84%	4	21%
Warrick	4	3	75%	3	75%	0	0%
Wayne	56	48	86%	49	88%	1	2%
White	1	1	100%	1	100%	0	0%
Total	**1544**	**1221**	**79%**	**1312**	**85%**	**91**	**6%**

Unspecified Analysis					
Total Number of T50.9 Codes		# of T50.9 ICD Codes Without Any other Opioid ICD Codes		T50.9 Code In Place of Opioid ICD Code (Matched by Toxicology)	
4	80%	1	20%	1	20%
75	52%	15	10%	17	12%
14	64%	6	27%	4	18%
2	100%	1	50%	0	0%
7	13%	0	0%	1	2%
1	50%	1	50%	0	0%
5	56%	2	22%	1	11%
1	50%	0	0%	0	0%
10	91%	1	9%	1	9%
25	100%	16	64%	14	56%
9	69%	3	23%	3	23%
7	78%	0	0%	0	0%
2	50%	1	25%	1	25%
3	60%	1	20%	0	0%
1	50%	0	0%	0	0%
2	100%	1	50%	0	0%
2	7%	0	0%	2	7%
6	60%	1	10%	1	10%
5	100%	4	80%	4	80%
27	66%	5	12%	1	2%
1	14%	0	0%	0	0%
8	100%	2	25%	0	0%
2	100%	1	50%	1	50%
12	86%	6	43%	2	14%
3	100%	1	33%	0	0%
131	63%	27	13%	10	5%
1	10%	0	0%	1	10%
277	51%	35	7%	8	1%
2	40%	0	0%	0	0%
23	88%	9	35%	6	23%
12	100%	3	25%	0	0%
18	100%	4	22%	0	0%
1	100%	0	0%	0	0%
0	0%	0	0%	0	0%
1	100%	1	100%	1	100%
1	100%	1	100%	1	100%
29	60%	8	17%	4	8%
0	0%	0	0%	0	0%
1	50%	1	50%	1	50%
1	50%	1	50%	1	50%
26	59%	6	14%	4	9%
8	89%	2	22%	0	0%
8	100%	1	13%	0	0%
1	100%	1	100%	0	0%
1	100%	1	100%	1	100%
33	97%	6	18%	1	3%
2	67%	0	0%	0	0%
2	100%	1	50%	1	50%
29	57%	3	6%	4	8%
4	100%	2	50%	0	0%
8	42%	2	11%	4	21%
2	50%	0	0%	0	0%
50	89%	8	14%	1	2%
1	100%	0	0%	0	0%
907	**59%**	**192**	**12%**	**103**	**7%**

**Percent calculated among total number of reports by county*